



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,148	09/18/2006	Edward W. Taylor Jr	06821/08339	1957
24024 7590 03/12/2010 CALFEE HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114				
EXAMINER				
NEGRELLI, KARA B				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
03/12/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocket@calfee.com
dcunin@calfee.com

Office Action Summary

Application No.

10/566,148

Applicant(s)

TAYLOR JR, EDWARD W.

Examiner

KARA NEGRELLI

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) 2, 3, 5, 18, 19, 21-23, 25-32, 34-55 and 57-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-17, 20, 24, 33, 56, and 65-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

WATERBORNE COATINGS AND FOAMS AND METHODS OF FORMING THEM

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-18, 20, 21, 24, 33, and 56 in the reply filed on May 4, 2009 is acknowledged. The traversal is on the ground(s) that the underlying reason for the restriction/election requirement (that there is not common inventive feature among all the claims) no longer applies due to the amendment of claim 1.
2. This is not found persuasive because the claims, as originally presented, are considered for restriction/election of species requirements. As originally presented, the common inventive limitations found in all the independent claims include a sulfonyl hydrazide blowing agent and a curing agent, which can be found in the prior art. Czaplicki et al. (US 2003/0069335) teach a material, method, and application of structural members, said method and material of which comprise a sulfonyl hydrazide blowing agent (paragraph [0013], lines 23-26) and a curing agent (paragraph [0013], lines 37-39).
3. As stated in a previous office action, it is noted that applicants wish to have examination center on the species of invention illustrated in working examples 1 and 1A. See Applicant's Response dated July 21, 2009. Applicant states that claims 1, 2, 4-16, 24 and 56 read on the elected species of Examples 1 and 1A. It is noted that the epoxy resin used in examples 1 and 1A is a bisphenol A resin, and not an epichlorohydrin adduct as recited in instant claim 5. Therefore, because claim 5 recites

an epoxy adduct that is not included in the elected species of examples 1 and 1A, claim 5 is not elected.

4. Furthermore, it is noted that the applicants have not made an election between the methods of claims 31 and 32, or a particular fire retardant specified in claims 18, 42, and 58, because "the practical effect of such an election would be to restrict the claims for examination purposes to a specie which is different [than] applicant's species of interest." Therefore, claims 18, 31, 32, 42, and 58 and all claims dependent are withdrawn from consideration. In other words, the election of species requirement is drawn to the non-elected invention, and therefore, applicant has not elected a species of method (claims 31 or 32) or flame retardant (claim 18).

5. Therefore, claims 3, 5, 18-19, 21-23, 25-32, 34-55, and 57-67 are respectfully withdrawn from consideration.

6. The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Any rejections stated in the previous Office Action and not repeated below are withdrawn.

9. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on January 19, 2010. In particular, claim 1 has been amended to recite

"...wherein the curing agent is a waterborne epoxy adduct of a polyamine." Claim 2 has been cancelled. New claims 65-70 have been added.

10. It is noted that the newly introduced limitations were not present at the time of the preceding action. No art has been applied to previously rejected claims. However, claims objections were made to address multiple dependent claims. For this reason, this action is Non-Final.

Claim Objections

11. Claims 8, 13-14, 22-24, 28-29, 41, 43, 45-47, 57, and 63-64 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. For example, Claim 8 should read: The method of any one of claims 1-7..., Claim 13 should read "The method of any one of claims 8-12..., etc. See MPEP § 608.01(n). Accordingly, claims 8, 13-14, 22-24, 28-29, 41, 43, 45-47, 57, and 63-64 not been further treated on the merits.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 1, 4, 6, 8-10, 12-14, 15-17, 20, 24, 33, 65-67 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 5,755,486) and further in view of Wycech (US 4,995,545).

14. Wycech '486 teaches a material comprising a synthetic resin, a foaming agent, a curing agent and a filler, wherein said foaming agent may comprise P,P'-oxybis (benzene sulfonyl hydrazide) which comprises from about 0.1 to about 10% of the resin body. The synthetic resin may comprise an epoxy resin such as bisphenol A or bisphenol F (column 6, lines 23-34) and may further comprise elastomers such as polybutyl rubber or acrylonitrilebutadiene rubber (column 5, lines 57-60). The fillers may comprise calcium carbonate or fumed silica (column 5, lines 61-65). Wycech further teach that the material may be phosphated (pertaining to instant claims 17-18). Wycech does not disclose that the reactants are reacted under external heat or pressure. Therefore, one of ordinary skill in the art would reasonably conclude that the process is at ambient temperature and pressure.

15. As to claim 33, case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

16. Wycech '486 teach the composition described above, but do not expressly teach that the curing agent is a waterborne polyamide or polyamine, an emulsion of an epoxy adduct of a polyamine, or an emulsion of an epoxy adduct of a polyamide amine, or that the curing agent is used in an amount of from 30 to 70% by weight.

17. However, Wycech (US 4,995,545) teach structural members comprising a bisphenol A epichlorohydrin resin (column 6, lines 24-24-27), a filler such as hydrated magnesium silicate or hydrated aluminum silicate (endothermic fillers) (column 7, lines 17-23), an expandable agent (column 6, lines 36-37), and a curing agent, Interez 826 Hardener), which is an aliphatic amine adduct partially reacted with an epoxy resin (column 8, lines 5-17) or a curing agent, Epicure 856 which is an aliphatic amido amine (column 8, lines 10-17). The curing agent is used at a concentration of about 10 to about 90 % by weight, and preferably about 30% to about 85% by weight (column 8, lines 1-5).

18. It would have been obvious for one of ordinary skill in the art to use the curing agents taught by Wycech '545 in the composition taught by Wycech '486 because the curing agents taught by Wycech '545 promotes rapid and moderately exothermic cure, but not so rapid that the compositions become crosslinked before they can be molded (column 7, lines 50-55). Furthermore, if the crosslinking is exothermic, additional external heat would not be necessary to cure the composition.

19. Claims 1, 4, 6, 8-10, 13-16, 24, 65-67, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 6,068,424) and further in view of Wycech (US 4,995,545).

20. Wycech '424 teaches a formulation comprising an epoxy resin, acrylonitrile/butadiene resin, at least one filler, and Celogen OT (a sulfonyl hydrazide blowing agent) (See column 5, lines 12-26), wherein the blowing agent is present in an amount of from 0.5 to 5 wt. % (column 4, lines 42-43).

21. Wycech '424 teach the composition described above, but do not expressly teach that the curing agent is a waterborne polyamide or polyamine, an emulsion of an epoxy adduct of a polyamine, or an emulsion of an epoxy adduct of a polyamide amine, or that the curing agent is used in an amount of from 30 to 70% by weight.

22. However, Wycech (US 4,995,545) teach structural members comprising a bisphenol A epichlorohydrin resin (column 6, lines 24-24-27), a filler such as hydrated magnesium silicate or hydrated aluminum silicate (endothermic fillers) (column 7, lines 17-23), an expandable agent (column 6, lines 36-37), and a curing agent, Interez 826 Hardener), which is an aliphatic amine adduct partially reacted with an epoxy resin (column 8, lines 5-17) or a curing agent, Epicure 856 which is an aliphatic amido amine (column 8, lines 10-17). The curing agent is used at a concentration of about 10 to about 90 % by weight, and preferably about 30% to about 85% by weight (column 8, lines 1-5).

23. It would have been obvious for one of ordinary skill in the art to use the curing agents taught by Wycech '545 in the composition taught by Wycech '424 because the

curing agents taught by Wycech '545 promotes rapid and moderately exothermic cure, but not so rapid that the compositions become crosslinked before they can be molded (column 7, lines 50-55). Furthermore, if the crosslinking is exothermic, additional external heat would not be necessary to cure the composition.

24. Claims 1, 4, 6, 8-10, 12-14, 15-16, 20, 24, 65-67, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaplicki et al. (US 2003/0069335) and further in view of Wycech (US 4,995,545).

25. Czaplicki et al. teach a material comprising an epoxy resin such as bisphenol A or bisphenol F, including an adduct of such epoxy, such as a rubber adduct (latex), less than about 2 wt % of a p, p-oxybibenzene sulfonyl hydrazide blowing agent, a curing agent, and at least one filler, wherein said filler may comprise calcium carbonate or aramid fibers (paragraph [0013]). Furthermore, the material may cure at a variety of temperatures (with or without external heat).

26. Czaplicki et al. do not expressly teach that the curing agent is a waterborne polyamide or polyamine, an emulsion of an epoxy adduct of a polyamine, or an emulsion of an epoxy adduct of a polyamide amine, or that the curing agent is used in an amount of from 30 to 70% by weight.

27. However, Wycech (US 4,995,545) teach structural members comprising a bisphenol A epichlorohydrin resin (column 6, lines 24-24-27), a filler such as hydrated magnesium silicate or hydrated aluminum silicate (endothermic fillers) (column 7, lines 17-23), an expandable agent (column 6, lines 36-37), and a curing agent, Interez 826

Hardener), which is an aliphatic amine adduct partially reacted with an epoxy resin (column 8, lines 5-17) or a curing agent, Epicure 856 which is an aliphatic amido amine (column 8, lines 10-17). The curing agent is used at a concentration of about 10 to about 90 % by weight, and preferably about 30% to about 85% by weight (column 8, lines 1-5).

28. It would have been obvious for one of ordinary skill in the art to use the curing agents taught by Wycech '545 in the composition taught by Czaplicki because the curing agents taught by Wycech '545 promotes rapid and moderately exothermic cure, but not so rapid that the compositions become crosslinked before they can be molded (column 7, lines 50-55). Furthermore, if the crosslinking is exothermic, additional external heat would not be necessary to cure the composition.

29. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Czaplicki et al. (US 2003/0069335) and further in view of Carpenter, "Polysulfides (Use as Modifiers in Epoxy Systems)."

30. Czaplicki et al. teach the composition as applied to claim 1 above, but do not expressly teach that the epoxy resin comprises and epoxy terminated polysulfide.

31. However, Carpenter teaches a method for formulating polysulfide/epoxy systems and use of these systems to produce polymer products, The production of polymer products comprising co-reacting polysulfide with epichlorohydrin or an epoxy resin to

make versatile epoxy formulations. See column 1 of page 6852, "Polysulfides (Use as Modifiers in Epoxy Systems," Carpenter.

32. It would have been obvious for one of ordinary skill in the art to use the polysulfide epoxy systems of Carpenter in the compositions of Czaplicki et al. because formulations based on the reaction of polysulfide with epichlorohydrin and/or epoxy resins exhibit excellent fuel resistance, good flexibility, and improved adhesion to various substrates. See column 1 of page 6852, "Polysulfides (Use as Modifiers in Epoxy Systems," Carpenter.

33. Claims 1, 4, 6-7, 14, 17, 24, 33, 56, and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 2002/0013389) and further in view of Starnier (US 7,282,543).

34. Taylor et al. teach polymeric blends comprising at least one epoxy resin (paragraph [0009]), fillers and/or flame retardants (paragraph [0011]), in which said filler may comprise iron oxide (endothermic filler) (paragraph [0014]), a sulfonyl hydrazide blowing agent such as p,p'-oxybis(benzene-sulfonyl hydrazide) (paragraph [0019]), a curing agent (paragraph [0021]), and which may comprise or various rubber materials (paragraph [0008], pertaining to instant claim 12) or epoxy resins (paragraph [0022]). Taylor et al. further teach that the curing agent may be activated at room temperature (paragraph [0026]).

35. As to claim 33, Case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention

and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

36. Taylor et al. do not expressly teach that the curing agent is a waterborne polyamide or polyamine, an emulsion of an epoxy adduct of a polyamine, or an emulsion of an epoxy adduct of a polyamide amine, or that the curing agent is used in an amount of from 30 to 70% by weight.

37. However, Starner et al. teach water soluble polyepoxy resins used in curable compositions. The compositions comprise a curative material, wherein the curative material comprises 49 parts by weight of Anquamine (an aliphatic amine) and water, and wherein the curative material is used to produce a water soluble epoxy resin (column 12, lines 50-67).

38. It would have been obvious for one of ordinary skill in the art to use the curative of Starner et al. in the composition of Taylor et al. because the curatives of Starner et al. enhance the water solubility of polyepoxy resins and, as such, may either expand the range of polyepoxy resins which may be utilized partially or completely in aqueous formulations, improve their overall performance, or simplify processes in which the polyepoxy resins are employed (column 3, lines 55-64).

Response to Arguments

39. Applicant's arguments filed January 19, 2010 have been fully considered but they are not persuasive.

40. Applicant argues that in column 5, line 19 and column 6, lines 6-8 of Wycech US 5,755,486, the patent discloses that compositions of the invention *must* be heated to elevated temperatures to achieve *foam formation*. Column 5, lines 15-19 of the '486 reference recites "In addition, in *some applications* it may be *preferable* to use plastic microspheres...which are in their unexpanded state until reinforced structural member is heated to expand material." Column 6, lines 6-8 recite that "curing... *may be obtained* at the temperatures experienced in automotive priming ovens." The applicants statement that the compositions *must be heated to elevated temperatures to achieve foam formation* is therefore not entirely accurate. At column 5, lines 15-19 and column 6, lines 6-8, two examples are provided in which heat may be applied to expand the foam. No where does the reference recite that heat must be applied. While heat may be applied, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. In re Lamberti 192 USPQ 278, 280 (CCPA 1976) citing In re Mills 176 USPQ 196 (CCPA 1972).

41. Wycech '486 teaches a material comprising a synthetic resin, a foaming agent, a curing agent and a filler, wherein said foaming agent may comprise P,P'-oxybis (benzene sulfonyl hydrazide) which comprises from about 0.1 to about 10% of the resin body. The synthetic resin may comprise an epoxy resin such as bisphenol A or

bisphenol F (column 6, lines 23-34) and may further comprise elastomers such as polybutyl rubber or acrylonitrilebutadiene rubber (column 5, lines 57-60). The fillers may comprise calcium carbonate or fumed silica (column 5, lines 61-65). Wycech further teach that the material may be phosphated (pertaining to instant claims 17-18). Wycech does not disclose that the reactants must be reacted under external heat or pressure. Therefore, one of ordinary skill in the art would reasonably conclude that the process may take place at ambient temperature and pressure.

42. Applicant argues claim 1 expressly recites that the sulfonyl hydrazide blowing agents of claim 1 are activated at temperatures below their decomposition temperatures. On the contrary, instant claim 1 recites, "A method of forming a foam...wherein **the curing agent reacts with the blowing agent** at a temperature below the activation temperature of the blowing agent," meaning that is it curing and not foaming which takes place at the lower temperature. Rather, the curing agent is said to react with the blowing agent at a temperature below the activation temperature of the blowing agent.

43. In regards to Czaplicki et al. (US 2003/0069335), applicant admits that Czaplicki et al. that curing can be accomplished in some of its embodiments "without external heat" and that sulfonyl hydrazide blowing agents may be employed. While sulfonyl hydrazide blowing agents are optional ingredients, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. In re Lamberti 192 USPQ 278, 280 (CCPA 1976) citing In re Mills 176

USPQ 196 (CCPA 1972). Conventional wisdom might suggest that sulfonyl hydrazide be heated when used as blowing agents. However, this does not apply to Czaplicki et al. because Czaplicki reacts the blowing agents with a curing agent. Furthermore, such a statement regarding conventional wisdom would indicate that the blowing agent of instant claim 1 must also be heated to be effective, because both Czaplicki et al. and the instant invention utilize the same blowing agents. As mentioned above, , instant claim 1 recites, "A method of forming a foam...wherein the curing agent reacts with the blowing agent at a temperature below the activation temperature of the blowing agent," meaning that is it curing and not foaming which takes place at the lower temperature. Czaplicki et al. teach that curing may occur without external heat, which is accordance with instant claim 1.

44. Any deficiencies which may be present in any of Wycech 5, 758, 486; Wycech 6,068,424; and Czaplicki et al. (US 2003/0069335) are cured using Wycech 4, 995, 545. Applicant argues that Wycech '545 requires that its compositions be heated for activating its foaming agents. Applicant further argues that its foaming agents are encapsulated inside microbeads where they would be prevented from coming into contact with the blowing agent.

45. Applicants' argument is not persuasive. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Note that while Wycech '545 do not disclose all the features of the present claimed invention, Wycech '545 is used as

teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept: curing agents such as, Interez 826 Hardener), which is an aliphatic amine adduct partially reacted with an epoxy resin (column 8, lines 5-17) or Epicure 856, which is an aliphatic amido amine (column 8, lines 10-17) used at a concentration of about 10 to about 90 % by weight, and preferably about 30% to about 85% by weight (column 8, lines 1-5), and in combination with the primary reference, discloses the presently claimed invention.

46. Wycech (US 4,995,545), which teaches structural members comprising a bisphenol A epichlorohydrin resin (column 6, lines 24-24-27), a filler such as hydrated magnesium silicate or hydrated aluminum silicate (endothermic fillers) (column 7, lines 17-23), an expandable agent (column 6, lines 36-37), and a curing agent, Interez 826 Hardener), which is an aliphatic amine adduct partially reacted with an epoxy resin (column 8, lines 5-17) or a curing agent, Epicure 856 which is an aliphatic amido amine (column 8, lines 10-17). The curing agent is used at a concentration of about 10 to about 90 % by weight, and preferably about 30% to about 85% by weight (column 8, lines 1-5).

47. It would have been obvious to use the curing agents taught by Wycech '545 in Wycech '486, Wycech '424, and Czaplicki 2003/0069335 because the curing agents of Wycech '545 promote rapid and moderately exothermic cure, but not so rapid that the compositions become crosslinked before they can be molded (column 7, lines 50-55).

Furthermore, if the crosslinking is exothermic, additional external heat would not be necessary to cure the composition.

48. In response to applicant's arguments against Starnier (US 7,282,543) individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Note that while Starnier et al. do not disclose all the features of the present claimed invention, Starnier et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept: water soluble polyepoxy resins such as Anquamine used in curable compositions, and in combination with the primary reference, discloses the presently claimed invention. Both Starnier et al. and Taylor 2002/0013389 teach curable polymeric materials comprising epoxy resins. It would have been obvious for one of ordinary skill in the art to use the curative of Starnier et al. in the composition of Taylor et al. because the curatives of Starnier et al. enhance the water solubility of polyepoxy resins and, as such, may either expand the range of polyepoxy resins which may be utilized partially or completely in aqueous formulations, improve their overall performance, or simplify processes in which the polyepoxy resins are employed (column 3, lines 55-64).

49. In response to applicant's arguments against *Starnier* (US 7,282,543) individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Note that while *Starnier et al.* do not disclose all the features of the present claimed invention, *Starnier et al.* is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept: epoxy-based resins modified using polysulfides, and in combination with the primary reference, discloses the presently claimed invention. Both *Carpenter* and *Czaplicki et al.* teach curable polymeric compositions comprising epoxy resins which may be used to produce flexible molding compositions. It would have been obvious for one of ordinary skill in the art to use the polysulfide epoxy systems of *Carpenter* in the compositions of *Czaplicki et al.* because formulations based on the reaction of polysulfide with epichlorohydrin and/or epoxy resins exhibit excellent fuel resistance, good flexibility, and improved adhesion to various substrates, which are all desirable characteristics of structural members of automobiles as taught by *Czaplicki et al.* See paragraph [0002] of *Czaplicki et al.* and all of page 6852, "Polysulfides (Use as Modifiers in Epoxy Systems," *Carpenter*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA NEGRELLI whose telephone number is (571)270-7338. The examiner can normally be reached on Monday through Friday 9:30 am EST to 6:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KARA NEGRELLI/
Examiner, Art Unit 1796

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1796

